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SERIES ON CALIFORNIA CROPS AND PRICES

CHERRIES

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CONTENTS

	PAGE
Summary	3
The general situation	5
Types of cherries	5
Principal sweet-cherry-producing states	7
Trend of bearing acreage in California	7
Forecast of bearing acreage in California	8
Cherry acreage by counties in California	9
Production of cherries in California	10
Cherry acreage in Oregon and Washington	12
Fresh cherries	12
Seasonal variation in shipments	12
Competition of other fruits	15
California interstate shipments	15
Principal markets for California cherries	16
Varieties of cherries in California	17
Weekly sales by varieties	19
Trends of sales by varieties	20
Trend of prices	20
Seasonal variation in prices	23
Average price differentials between varieties	23
Factors affecting prices	24
Canned cherries	26
Important canning-cherry-producing states	27
Trend of canned cherry pack	27
Wide variations in pack of canned cherries in California	28
Prices paid to growers for canning cherries	30
Exports of canned cherries	31
Maraschino cherries	33
Italian exports of cherries	35
Acknowledgments	36
Appendix of tables	37

CHERRIES[1]

H. R. WELLMAN[2] AND E. W. BRAUN[3]

SUMMARY

Sweet and sour cherries do not compete seriously either for the use of land or in the consuming markets. The commercial production of sweet cherries in the United States is largely confined to the states west of the Rocky Mountains, the commercial production of sour cherries, to the states east of the Rocky Mountains. Sweet cherries are used mainly as fresh or canned table fruit and in the manufacture of maraschino cherries, while the bulk of the sour cherries are used as a pie fruit.

California is the most important state in the production of sweet cherries. The average annual production in California during the past four years, 1925–1928, amounted to 15,600 tons, as against 10,700 tons in Oregon and 6,800 tons in Washington.

From 1921 to 1926 there was a gradual increase in the bearing acreage of cherries in California, amounting on the average to almost 400 acres a year. During the past three years the increase has been much more rapid, amounting to about 800 acres a year. Indications are that this rapid increase will be maintained during the next few years. In 1929 there were 13,260 acres of bearing cherries in the state and 5,647 nonbearing acres. The California Cooperative Crop Reporting Service estimates that by 1932 the bearing acreage will amount to 16,300 acres, an increase of 23 per cent over the bearing acreage in 1929.

The production of cherries, however, has not kept pace with the increase in bearing acreage. Conditions have been unfavorable to high yields in the past few years. The average yield per acre for the state as a whole was only 1.33 tons during the past six years, whereas the average yield during the five years from 1919 to 1923 amounted to 1.63 tons. The available information indicates that at least a part

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of the decline in yield is a temporary and not a permanent condition. Similar periods of low yields followed by periods of higher yields have occurred at two other times during the past 25 years. If the present period of low yields is followed by a period of high yields such as occurred previously, it is evident that the total production in the state may be materially increased. In addition, the increase in bearing acreage may result in a further increase in production.

Fresh Cherries.—Although many of the other western states produce large quantities of sweet cherries for fresh consumption, they do not come on the market until the California season is nearly completed. Consequently, they do not compete to any serious extent with our fruit.

The trend of interstate shipments of fresh cherries from this state has been upward, rising from 570 cars in 1921 to 730 cars in 1929, an increase of 33 per cent. This upward trend may be expected to continue since about 65 per cent of the present nonbearing acreage of cherries in the state is planted to black varieties which are shipped fresh.

Thus far the demand for California fresh cherries has kept pace with the upward trend of shipments. Consequently, there has been no downward trend in prices. Whether the demand for cherries will continue to increase cannot be definitely determined from the data now available. However, there is as yet no evidence that it has been checked. But even with a further increase in demand it does not appear that the level of prices will rise above the average of recent years if the prospective increase in shipments materializes. And if conditions are particularly favorable to large yields there may even be some decline in the trend of prices.

Canned Cherries.—The Royal Ann (Napoleon) cherry is the principal variety used for canning, and a considerable part of the Royal Ann crop is so used. As contrasted with fresh cherries, California canned cherries come in direct competition with those packed in Oregon, Washington, Idaho, and Utah. Some of the states east of the Rocky Mountains also produce large quantities of canning cherries, but their cherries are the sour varieties. Consequently, they do not compete seriously with our sweet cherries. Although there has been a downward trend in the canned pack in this state since 1919, there has been a pronounced upward trend in Oregon and Washington. The increase in those two states has more than offset the decline in California. The total pack of canned cherries on the Pacific Coast has increased about 18 per cent in the past nine years. The increase

in the pack of canned cherries, however, has been small as compared with the increases in most of the canned fruits.

The demand for canned cherries has just about kept pace with the relatively small increase in the pack. Consequently, there has been no pronounced downward trend in prices paid to growers.

Unofficial estimates indicate that there are about 2,500 acres of nonbearing Royal Ann (Napoleon) trees in the three Pacific Coast states. When this acreage comes into bearing production will be increased. While canning may be expected to provide an outlet for a gradual increase in the supply of Royal Anns, it does not appear that a very large increase in the canned pack can be sold except at lower prices.

Exports of canned cherries from the Pacific Coast ports have averaged around 28,700 cases annually during recent years. Since 1923 there has been an upward trend in exports. Although exports have increased somewhat faster than the pack, they still constitute less than 5 per cent of it. Countries in the Orient are the most important foreign markets for canned cherries exported directly from this coast. During the past four years they have taken about two-thirds of the total exports from San Francisco.

Maraschino Cherries.—In recent years the manufacture of maraschino and glacé cherries has provided an annual outlet for more than 5,000,000 pounds of sulfured and brined Royal Ann (Napoleon) cherries that were produced on the Pacific Coast. This amount, however, has constituted only a part of the sulfured and brined cherries which the United States annually uses in the manufacture of maraschino and glacé cherries. During the past six years the total imports of cherries, most of which were sulfured and brined cherries that had been stemmed and pitted, amounted to an average of 17,000,000 pounds a year.

The Outlook.—From the available facts it does not appear that large additional plantings of Royal Ann (Napoleon) cherries are justified unless the domestic market for maraschino cherries is greatly expanded. Nor, in view of the large increase in production already in prospect, does it appear that the acreage of cherries for fresh shipment can be profitably increased except in particularly favorable localities.

THE GENERAL SITUATION

Types of Cherries.—There are two distinct types of cherries grown in the United States, the sweet and the sour. These two types do not compete to any considerable extent either for the use of land or in the consuming markets.

The commercial production of sweet cherries is largely confined to the states west of the Rocky Mountains; the commercial production of sour cherries, to the states east of the Rocky Mountains. Practically no sour cherries are grown commercially in California, while in Oregon, Washington, Idaho, and Utah only a small percentage of the crop consists of sour cherries. On the other hand, in the important cherry-producing states east of the Rocky Mountains, such as Michigan and New York, it is estimated that only 5 or 10 per cent of the production consists of sweet cherries. According to Bailey "sweet cherries can be grown with commercial success in but few and comparatively limited regions. They are somewhat fastidious as to soils, are lacking in hardiness to both heat and cold, are prey to more insects than sour cherries, and subject to nearly all the fungus ills to which stone-fruits are heir, suffering in particular from brown-rot and leaf-spot."[4] Consequently, it is not expected that the commercial sweet-cherry area will be extended beyond the states in which they are now grown.

TABLE 1

TOTAL PRODUCTION OF CHERRIES IN CALIFORNIA, OREGON, WASHINGTON, UTAH, AND IDAHO

Year	California	Oregon	Washington	Utah	Idaho
	tons	*tons*	*tons*	*tons*	*tons*
1919	12,400	.....	.....	.....	.....
1920	17,500	6,200	.....	.....	.....
1921	13,000	3,000	.....	.....	.....
1922	14,000	5,500	.....	.....	.....
1923	17,000	8,800	8,000	5,000	.....
1924	13,500	10,000	4,000	2,000	.....
1925	12,000	6,300	7,000	5,500	.....
1926	20,000	14,400	9,000	5,300	.....
1927	12,000	10,500	3,000	3,800	2,200
1928*	18,500	10,900	10,000	4,600	4,000
1929*	15,000	.....	.....	.....	.....

* Subject to revision.

Sources of data: California data from N. I. Nielsen, Fruit Statistician, California Cooperative Crop Reporting Service; Oregon data from F. L. Kent, Agricultural Statistician, Oregon; data for other states from Shear, S.W., Fruit Production, Consumption and Utilization in the United States. California Agr. Exp. Sta. Bul. (in preparation).

The two types of cherries are also fairly distinct from the standpoint of market preferences. Sweet cherries are used mainly as a table fruit and in the manufacture of Maraschino cherries, while the bulk of the sour cherries are used as a pie fruit. Consequently, the competition between them in the consuming markets is not close.

[4] Bailey, L. H. Standard cyclopedia of horticulture. 2:738–739. 1919.

Because of the noncompetitive character of the two types of cherries, this publication deals solely with the sweet cherry, which is the only type grown commercially in California.

Principal Sweet-Cherry-producing States.—The principal states in the production of sweet cherries are California, Oregon, Washington, Utah, and Idaho. The available estimates of production in these five states are given in table 1. During the four years 1925–1928 the average production in California amounted to 15,600 tons, in Oregon to 10,700 tons, in Washington to 6,800 tons, and in Utah to 4,700 tons. In Idaho production in 1927 amounted to 2,200 tons and in 1928 to 4,000 tons.

Trend of Bearing Acreage in California.—Estimates of bearing acreage of cherries in California are available for each year since 1914. These data are shown graphically in figure 1. During the seven years

Bearing Acreage of Cherries in California, 1914–1929, and Forecast of Bearing Acreage, 1930–1932

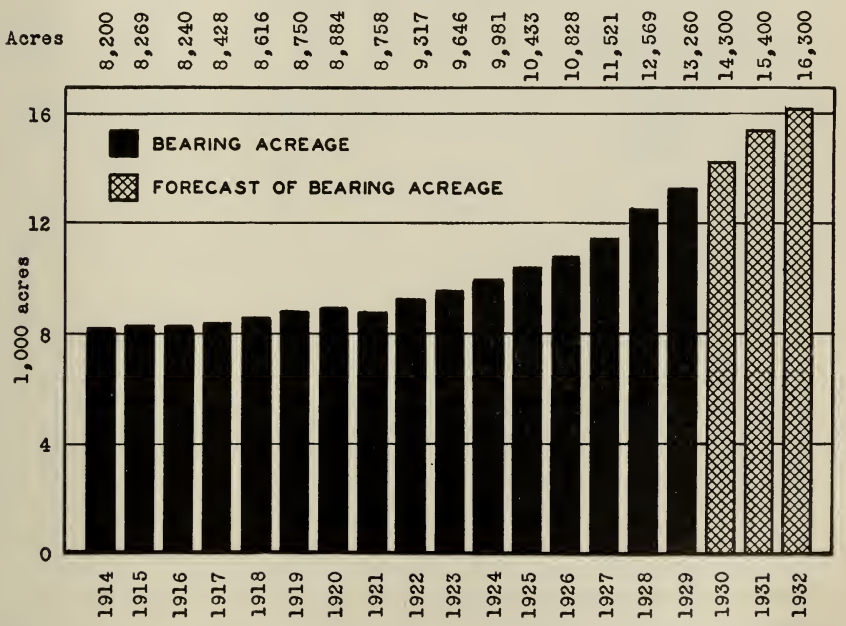


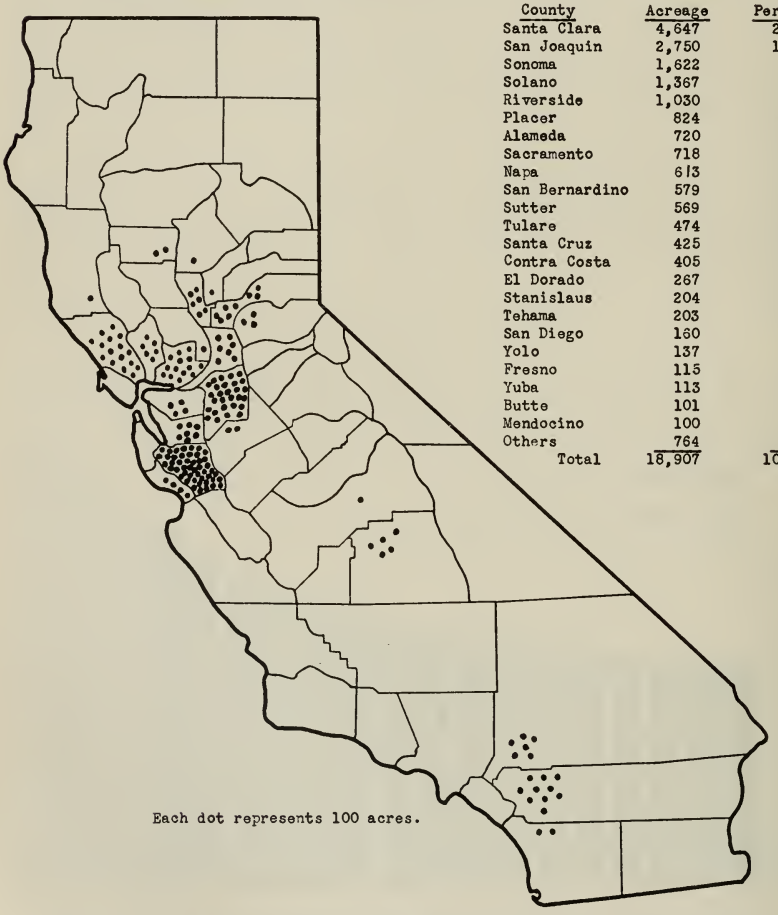
Fig. 1.—The recent rapid increase in bearing acreage of cherries in California is likely to continue during the next few years.

Data from California Cooperative Crop Reporting Service.

from 1914 to 1921 there was only a small increase in bearing acreage, amounting on the average to less than 100 acres a year. From 1921 to 1926 the increase was more rapid, amounting on the average to almost

400 acres a year. During the past three years the increase in bearing acreage has been very rapid, amounting to about 800 acres a year. In 1929 the bearing acreage amounted to 13,260 acres, 22 per cent larger than in 1926 and 42 per cent larger than in 1922.

CHERRY ACREAGE, CALIFORNIA, 1929 (BEARING AND NONBEARING)



County	Acreage	Per cent
Santa Clara	4,647	24.6
San Joaquin	2,750	14.5
Sonoma	1,622	8.6
Solano	1,367	7.2
Riverside	1,030	5.5
Placer	824	4.4
Alameda	720	3.8
Sacramento	718	3.8
Napa	613	3.2
San Bernardino	579	3.1
Sutter	569	3.0
Tulare	474	2.5
Santa Cruz	425	2.3
Contra Costa	405	2.1
El Dorado	267	1.4
Stanislaus	204	1.1
Tehama	203	1.1
San Diego	160	.9
Yolo	137	.7
Fresno	115	.6
Yuba	113	.6
Butte	101	.5
Mendocino	100	.5
Others	764	4.0
Total	18,907	100.0

Fig. 2.—The large cherry-producing areas in the state are confined to a comparatively few counties.

Data from California Cooperative Crop Reporting Service.

Forecast of Bearing Acreage in California.—Present indications are that the rapid increase in the bearing acreage during the past three years will be maintained for the next few years at least. In 1929 there were approximately 5,647 acres of cherries which had not

yet come into bearing. The California Cooperative Crop Reporting Service estimates that by 1932 the bearing acreage will reach 16,300 acres, an increase of 23 per cent over the present bearing acreage. In figure 1 the forecasts of bearing acreage for the three years of 1930, 1931, and 1932 are shown by the crosshatched bars.

Cherry Acreage by Counties in California.—The distribution of the total cherry acreage in California in 1929 is shown in figure 2.

TABLE 2

California Cherry Acreage by Counties; Bearing Acreage 1922–1929; and Nonbearing Acreage 1929

County	1922	1923	1924	1925	1926	1927	1928	1929	Non-bearing acreage, 1929
	acres	*acres*	*acres*	*acres*	*acres*	*acres*	*acres*	*acres*	*acres*
Alameda	535	542	550	675	800	876	800	600	120
Contra Costa	200	200	200	200	212	212	250	275	130
Humboldt	25	28	30	35	50	55	55	60	2
Mendocino	50	50	50	53	63	75	83	95	5
Napa	300	300	300	300	300	300	300	320	293
San Mateo	13	14	15	18	25	45	66	70	16
Santa Clara	2,500	2,500	2,500	2,500	2,676	2,776	3,176	3,370	1,277
Santa Cruz	300	300	300	337	340	360	370	375	50
Sonoma	825	887	950	950	1,000	1,200	1,282	1,427	195
Butte	27	31	35	38	58	95	95	95	6
El Dorado	80	90	100	130	120	120	120	145	122
Nevada	60	55	55	54	60	60	60	60	
Placer	574	581	588	579	549	581	587	600	224
Sacramento	307	310	314	340	300	340	420	450	268
Solano	850	900	950	1,000	1,000	1,007	1,013	1,050	317
Sutter	62	111	160	208	224	229	345	345	224
Tehama	26	26	26	26	25	50	85	90	113
Yolo	70	70	70	71	84	90	104	112	25
Fresno	77	77	77	90	100	105	105	105	10
San Joaquin	1,058	1,121	1,184	1,208	1,390	1,450	1,500	1,798	952
Stanislaus	70	85	90	99	100	94	114	150	54
Tulare	116	118	121	125	125	154	221	235	239
Riverside	444	481	519	618	407	454	452	452	578
San Bernardino	274	286	299	274	285	301	481	431	148
San Diego	150	153	157	156	163	120	130	132	28
Other counties	324	330	341	349	372	372	355	418	251
Total	9,317	9,646	9,981	10,433	10,828	11,521	12,569	13,260	5,647

Sources of data: Compiled by N. I. Nielsen, Fruit Statistician, California Cooperative Crop Reporting Service.

Although cherries are grown in 46 of the 58 counties in the state, the large producing areas are confined to comparatively few counties. Of the 18,907 acres in the state, 6,197 acres or 33 per cent are located in the four counties—Contra Costa, Alameda, Santa Clara, and Santa Cruz—south of San Francisco Bay; 3,602 acres or 19 per cent, in the

three counties—Sonoma, Napa, and Solano—north of San Francisco Bay; 4,292 acres or 23 per cent, in three central California counties—San Joaquin, Sacramento, and Placer; and 1,609 acres or 9 per cent in the two counties—Riverside and San Bernardino—in southern California. These twelve counties contain almost 85 per cent of the total acreage in the state.

The principal cherry-producing counties from the standpoint of bearing acreage are given in table 2. In 1929 the three counties of Santa Clara, San Joaquin, and Sonoma contained one-half of the total bearing acreage in the state, and Santa Clara County contained one-fourth.

The changes in the bearing acreage of cherries in the various counties of the state from 1922 to 1929 are shown in table 2. It will be noted that 63 per cent of the total increase of 2,432 acres from 1926 to 1929 occurred in the three counties of Santa Clara, Sonoma, and San Joaquin, while 29 per cent of the total increase occurred in Santa Clara County alone.

The location of the recent plantings of cherries in California is shown in the last column in table 2. Of the 5,647 acres not in bearing in 1929, 23 per cent were in Santa Clara County, 17 per cent in San Joaquin County, 10 per cent in Riverside County, and 6 per cent in Solano County. These four counties contain over one-half of the total nonbearing acres in the state at the present time.

Production of Cherries in California.—The estimated production of cherries in California from 1919 to 1929 is represented by the broken line in figure 3. The scale of production is adjusted to that of bearing acreage, which is represented by the solid line, on the basis of the average yield per acre between 1919 and 1924. It will be noted that during recent years production has not kept pace with the increase in bearing acreage. With the exception of 1926, conditions have apparently been unfavorable to high yields. The average yield per acre for the state as a whole was only 1.33 tons during the past six years, whereas the average yield during the years 1919–1923 amounted to 1.63 tons. The relatively unfavorable conditions of recent years are also indicated by the available figures on the condition of the crop collected by the California Cooperative Crop Reporting Service. The average condition of the crop from 1919 to 1923 was 79 per cent of a full crop, whereas the average condition during the past five years was only 59 per cent of a full crop. The average yield per acre in 1929 was the lowest in any year since 1919 with the single exception of 1927. The severe freeze in April resulted in a short crop

in the Sacramento and upper San Joaquin valleys. Such severe freezes, however, do not occur often.

Whether the relatively low yields which prevailed in 1924, 1925, 1927, and 1928 are of a temporary or a permanent nature cannot be

Production and Bearing Acreage of Cherries in California, 1919–1929, and Forecast of Bearing Acreage, 1930–1932

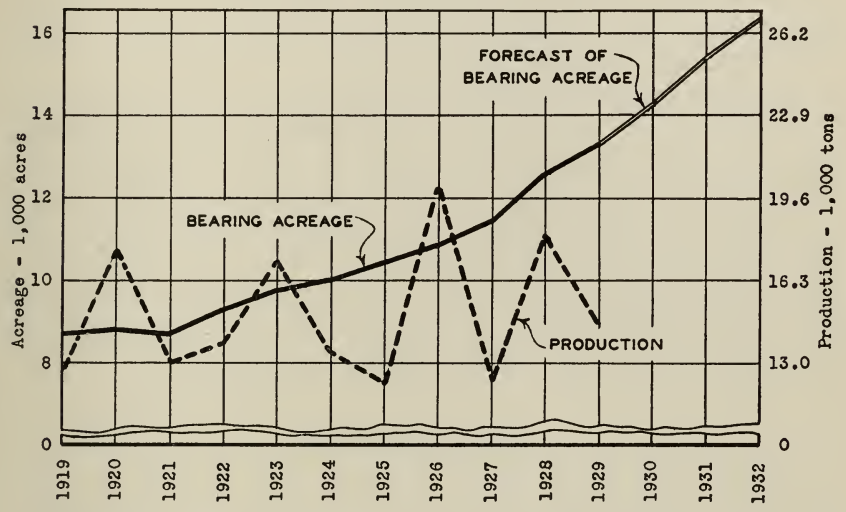


Fig. 3.—With favorable weather conditions, production of cherries in California during the next few years is likely to be considerably larger than the average of recent years.

Data from figure 1 and table 1.

definitely determined. Estimates of total production are not available prior to 1919. Data on the interstate shipments of fresh cherries and the canned pack, however, indicate that similar periods of low yields followed by periods of high yields have occurred at two other times during the past 25 years. From 1904 to 1907 the yields were low; from 1908 to 1912 they were much higher; again from 1913 to 1916 they were low, and from 1917 to 1923 they were high. If the present period of low yields is followed by a period of high yields such as occurred previously, the total production in the state will be materially increased.

It is also likely that there will be some increase in yield per acre as a result of the increase in the average age of the trees. As a result of the rapid increase in acreage in recent years, a relatively large proportion of the trees now listed as bearing have not yet reached the age of full bearing. In view of the possibility of higher yields per

acre, together with the large prospective increase in bearing acreage, it is evident that we may be faced with an average production of cherries during the coming years much higher than in recent years.

Cherry Acreage in Oregon and Washington.—During recent years there has been a substantial increase in the total acreage of cherries in Oregon. In 1923 the total acreage amounted to 5,000 acres, in 1927 to 7,500 acres, and in 1928 to 10,000 acres.[5] Most of this recent increase has not yet come into bearing, and consequently has not yet resulted in a corresponding increase in production.

The total acreage of cherries in Washington in 1928 was estimated to be 6,200 acres.[6] The bearing and nonbearing trees are not reported separately for the state as a whole. In eastern Washington, however, such estimates are available. Of the total acreage of 2,600 acres in that section in 1928, 1,600 acres were classified as bearing and 1,000 acres as nonbearing.[7] Practically all of the cherries produced in eastern Washington are the sweet varieties. In western Washington, however, some sour cherries are produced, and it is reported that the plantings of sour cherries in that area are increasing.

FRESH CHERRIES

Seasonal Variation in Shipments.—The weekly carlot shipments of cherries from California, Oregon, Washington, Idaho, and Utah in 1928 and 1929 are given in table 3. Although these figures include shipments to canneries, they fairly represent the shipping seasons of fresh cherries from the different states. An analysis of similar data for the previous five years indicates that 1928 and 1929 are typical from the standpoint of the competition which California fresh cherries meet from those produced elsewhere. In figure 4 the shipments of California cherries are shown by the black bars and the shipments from the other states by the crosshatched bars.

The shipping season in California usually begins around the last of April or the first of May and continues for about nine weeks. Most of the fruit, however, is shipped during a period of four or five weeks. In 1928, 85 per cent of the total crop moved during the four weeks of

[5] Estimates made by F. L. Kent, Agricultural Statistician, Oregon.

[6] State of Washington, Dept. of Agr. Eighth Biennial Report. p. 41. 1928. Data are given in number of trees, which were converted to acres on the basis of 60 trees per acre.

[7] M. D. Armstrong, Extension Horticulture Specialist, State College of Washington; letter dated October 11, 1928.

May 19 to June 9, while in 1929, 75 per cent moved during the four weeks of June 1 to June 22.

It will be noted in figure 4 that during most of our shipping season California growers practically have the cherry market to themselves.

TABLE 3

WEEKLY CARLOT SHIPMENTS* OF CHERRIES BY STATE OF ORIGIN, 1928–1929

Year	Week ending	California	Oregon	Washington	Idaho	Utah	Total
		cars	*cars*	*cars*	*cars*	*cars*	*cars*
1928	Apr. 28	5					5
	May 5	30					30
	12	80					80
	19	226					226
	26	279					279
	June 2	247					247
	9	111					111
	16	41	66	61			168
	23	2	107	200	64		373
	30		85	190	78		353
	July 7		51	123	31	24	229
	14		31	79	11	16	137
	21		19	16	1	3	39
	28		8	1			9
	Aug. 4		1				1
	Total	1,021	368	670	185	43	2,287
1929	May 11	16					16
	18	40					40
	25	77					77
	June 1	160					160
	8	192					192
	15	153	2	2	1		158
	22	107	25	31	7		170
	29	65	83	183	37		368
	July 6	2	36	179	63	5	285
	13		36	158	69	45	308
	20		50	50	18	39	157
	27		42	26	5	9	82
	Aug. 3		28				28
	10		7				7
	Total	812	309	629	200	98	2,048

* Includes cannery stock.

Source of data: U. S. Dept. Agr. Bur. Agr. Econ. Weekly Summary of Carlot Shipments, weekly issues; except for California, 1928, which were compiled by W. F. Cox.

It is only during the last two or three weeks of our season that cherries from other states appear on the market, and at that time our shipments are relatively light. By the time shipments from the other states become heavy, our cherries are practically gone.

That California fresh cherries meet with little competition in the consuming markets from those grown elsewhere is also shown by the record of sales on the delivered-auction market in New York City.

WEEKLY CARLOT SHIPMENTS OF CHERRIES, CALIFORNIA AND OTHER WESTERN STATES, 1928–1929

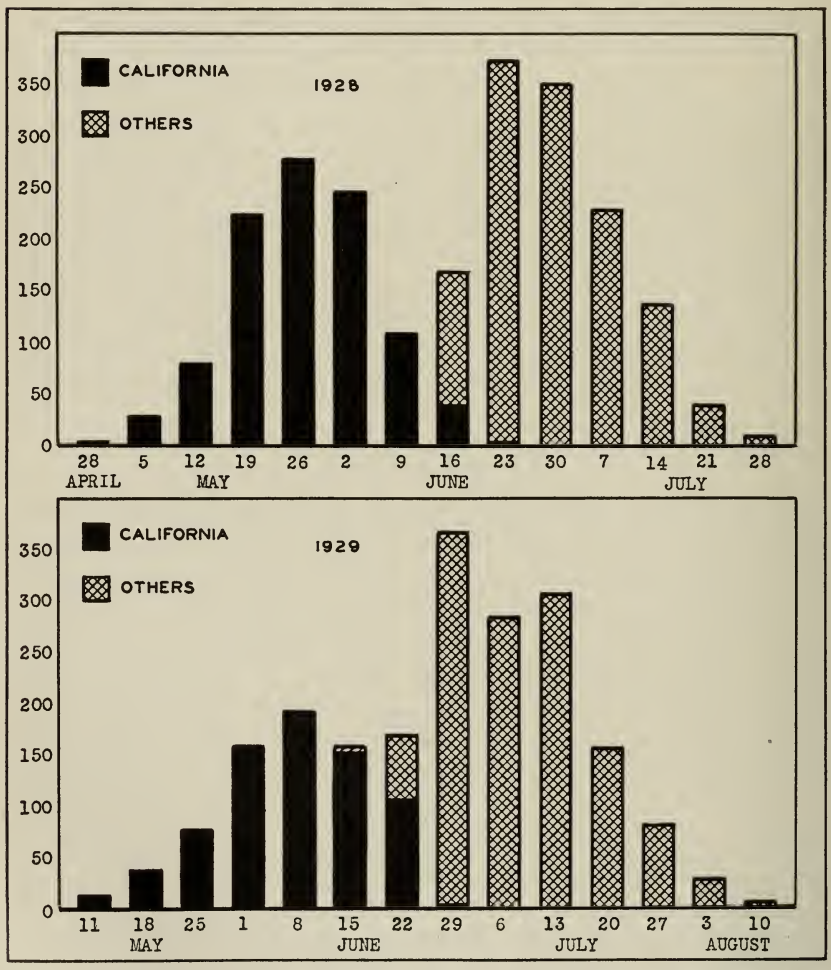


Fig. 4.—The bulk of the California fresh cherries is usually marketed before the shipments from the other states producing sweet cherries become heavy.

Data from table 3.

From 1922 to 1929 an average of 85 per cent of the total volume of California cherries had been sold before the cherries from the other sections made their appearance.

Competition of Other Fruits.—Table 4 shows the weekly carlot shipments of certain fruits during the marketing season of California fresh cherries. During the first half of our cherry season, heavy shipments of strawberries move to market. As shipments of strawberries decline, those of cantaloupes, peaches, and plums increase. Consequently, there is no time that our fresh cherries do not meet with some competition from other fruits. The tendency is for the competition to become keener as the season advances.

TABLE 4

Weekly Carlot Shipments of Certain Fresh Fruits, United States, and Weekly Interstate Shipments of Cherries and Apricots from California, 1928–1929

Year	Week ending	California cherries	Strawberries	Cantaloupes	Peaches	Plums and prunes	California apricots	Mixed deciduous	Total, not including cherries
		cars	*cars*	*cars*	*cars*	*cars*	*cars*	*cars*	*cars*
1928	Apr. 28	5	775	.....	.....	.....	.....	.....	775
	May 5	30	1,431	.....	.....	.....	.....	.....	1,431
	12	78	1,770	121	.....	.....	.....	.....	1,891
	19	222	2,825	9,976	3	.....	2	.....	3,806
	26	262	2,623	1,847	4	.....	12	.....	4,486
	June 2	184	3,491	1,923	11	181	79	98	5,783
	9	88	2,267	2,247	86	265	160	179	5,204
	16	28	1,017	2,129	402	431	68	179	4,226
	23	1	211	2,499	559	576	41	178	4,064
1929	May 11	16	2,187	3	.....	.....	.....	.....	2,190
	18	40	2,876	53	6	.....	.....	.....	2,935
	25	77	2,365	621	19	.....	.....	1	3,006
	June 1	136	2,212	1,253	119	9	3	15	3,611
	8	141	723	1,666	366	132	7	38	2,932
	15	88	285	2,295	427	230	57	126	3,420
	22	64	103	2,524	808	305	159	243	4,142
	29	40	80	2,963	726	248	149	220	4,386
	July 6	2	30	3,130	944	109	47	139	4,399

Source of data: U. S. Dept. Agr., Bur. Agr. Econ. Weekly Summary of Carlot Shipments, weekly issues, except for cherries and apricots, which were compiled by W. F. Cox.

California Interstate Shipments.—The interstate shipments of fresh cherries from California during the past twenty years are shown in figure 5. Significant changes in the trend of shipments occurred during this period. From 1909 to 1916 the trend was downward. Then occurred a period of very rapid expansion. Each year from 1917 to 1921, with the single exception of 1919, shipments were larger than in the preceding year. In 1916 the average shipments as determined by the line of trend amounted to 210 cars; by 1921 they amounted to 570 cars, an increase of 170 per cent in five years. Since

1921 the trend of shipments has continued upward but more slowly than before. The increase in the trend from 1921 to 1929 amounted to 160 cars or 33 per cent.

A high record for fresh cherry shipments from this state was established in 1928. In that year 898 cars left the state, which is 21 per cent larger than the previous high record of 1926, and 33 per cent

INTERSTATE SHIPMENTS OF FRESH CHERRIES, CALIFORNIA, 1909–1929

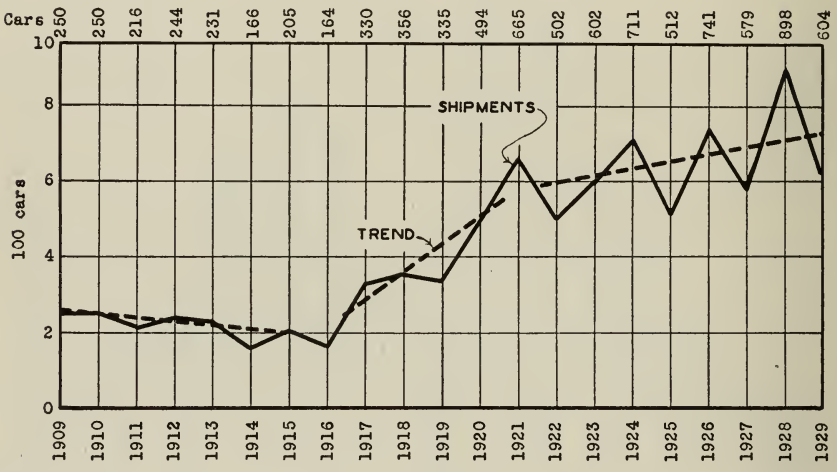


Fig. 5.—The recent upward trend in interstate shipments, although substantial, has not been as rapid as during the period from 1917 to 1921.

Data from California Cooperative Crop Reporting Service.

larger than the five-year average 1923–1927. In 1929, however, shipments amounted to only 604 cars. The severe freeze in April reduced the crop materially.

The recent upward trend in shipments is likely to continue during the next few years. Unofficial estimates indicate that about 65 per cent of the present nonbearing acreage of cherries in the state is planted to black varieties which are consumed fresh.

Principal Markets for California Cherries.—The distribution of the interstate shipments of cherries from California is relatively limited. In 1928 shipments in carlots were sent to 23 cities in the United States and 4 cities in Canada. In 1929, as a result of the smaller crop, only 17 cities in the United States and 1 city in Canada were reached. In both 1928 and 1929 over 80 per cent of the total interstate shipments were sent to the 4 markets of New York, Chicago,

Philadelphia, and Boston, and about 50 per cent to New York alone (table 5).

TABLE 5

Destination of Interstate Shipments of California Cherries, 1928 and 1929

City	Cars		Per cent	
	1928	1929	1928	1929
New York	432	304	48.1	50.3
Chicago	139	99	15.5	16.4
Philadelphia	79	44	8.8	7.3
Boston	75	52	8.3	8.6
Detroit	37	24	4.1	4.0
Pittsburgh	32	22	3.5	3.6
Cleveland	24	16	2.7	2.6
Baltimore	15	10	1.7	1.7
Minneapolis	15	10	1.7	1.7
Buffalo	8	5	.9	.8
St. Louis	7	4	.8	.7
Cincinnati	6	1	.7	.1
Milwaukee	6	7	.7	1.2
Others	23	6	2.5	1.0
Total	898	604	100.0	100.0

Source of data: Compiled by W. F. Cox, Bur. Agr. Econ., U. S. Dept. Agr.

Varieties of Cherries in California.—There are some twenty varieties of cherries produced commercially in California which may be shipped fresh.[8] The relative importance of five of the major varieties, as indicated by the delivered-auction sales in New York City, is shown in figure 6. The Black Tartarian is the leading variety for

Sales of Important Varieties of California Cherries, New York Auction Market, Average 1925–1929

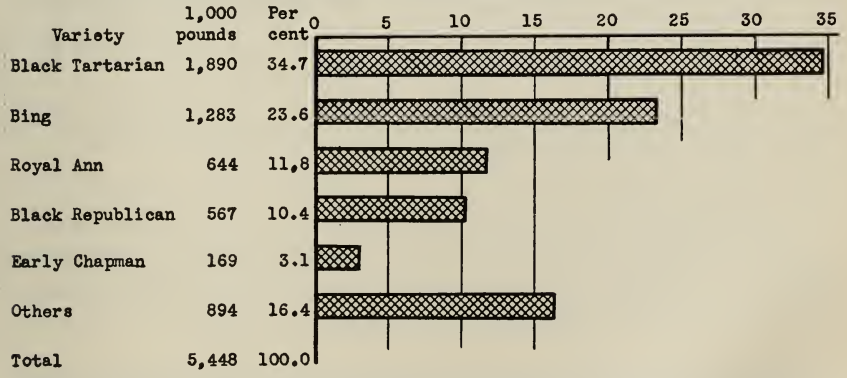


Fig. 6.—Approximately one-third of the total sales of California cherries at New York are Black Tartarians.

Data from table 14.

[8] California Fruit Exchange. California cherries, season of 1928. The Blue Anchor. 5(5):17. 1928.

fresh shipment, followed by Bing, Royal Ann,[9] Black Republican, and Early Chapman in the order named. During the period 1925–1929, 35 per cent of the total sales of California cherries on the New York Auction Market were Black Tartarian, 24 per cent Bings, and 12 per cent Royal Anns.[10]

SALES OF IMPORTANT VARIETIES OF CALIFORNIA CHERRIES, NEW YORK AUCTION MARKET BY WEEKS, 1928

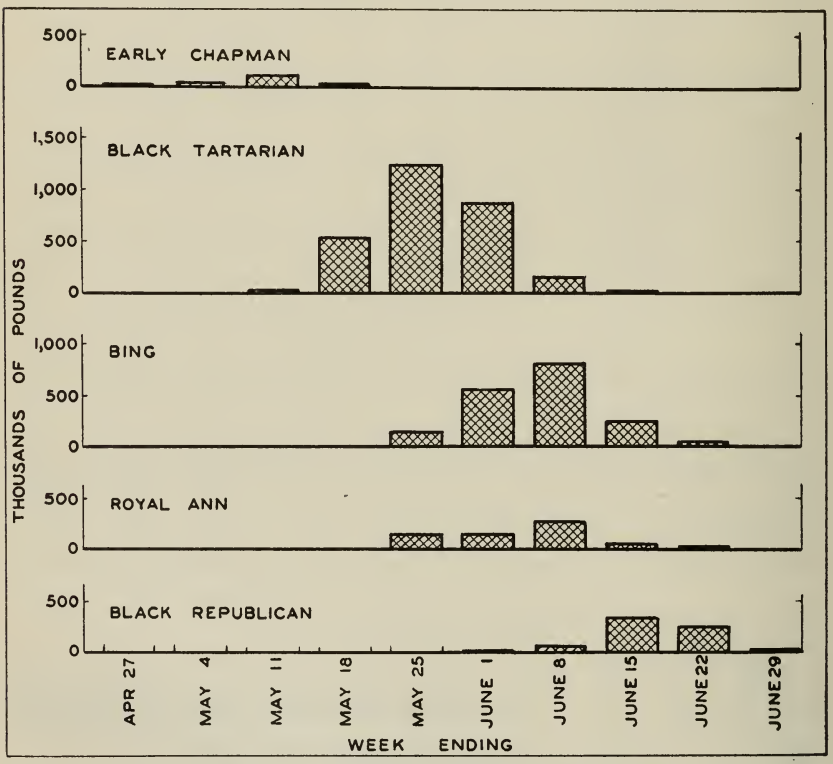


Fig. 7.—With the exception of Bings and Royal Anns, the peaks of sales of the five varieties come at different periods.

Data from table 6.

Only a small part of the total Royal Ann crop in the state is shipped fresh. It is not generally considered to be a first-class variety for eastern shipment because it does not stand the long haul as well as do the black varieties.

[9] Napoleon is the proper name of this variety. On the Pacific Coast, however, it is known as Royal Ann. The name Royal Ann is used in this publication.

[10] The sales of cherries on the New York Auction Market furnish a reliable sample of the fresh shipments since about 50 per cent of the total interstate shipments are sold on the New York Auction Market.

Weekly Sales by Varieties.—The relation between the marketing periods of the five important varieties of California cherries is illustrated in figure 7, which gives the weekly sales at New York in 1928. There is, of course, some variation from year to year in the time that

TABLE 6

SALES OF IMPORTANT VARIETIES OF CALIFORNIA CHERRIES, NEW YORK AUCTION MARKET, BY WEEKS, 1927–1929

Year	Week ending	Early Chapman	Black Tartarian	Bing	Royal Ann	Black Republican	Others	Total
		1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1927	May 13	21	.....	.....	.....	.....	4	25
	20	59	20	.....	.....	.....	34	113
	27	13	257	2	3	.....	14	289
	June 3	.....	521	71	97	6	26	721
	10	.....	298	240	499	23	125	1,185
	17	.....	405	110	354	20	239	1,128
	24	.....	128	202	219	66	215	830
	July 1	.....	2	146	273	117	66	604
	8	.....	.....	24	77	99	32	232
	15	.....	.....	.....	9	5	17	31
	Total	93	1,631	795	1,531	336	772	5,158
1928	May 4	28	.....	.....	.....	.....	12	40
	11	135	14	.....	.....	.....	44	193
	18	17	561	.....	.....	.....	47	625
	25	.....	1,265	156	130	.....	51	1,602
	June 1	.....	929	573	129	19	53	1,703
	8	.....	183	836	293	91	438	1,841
	15	.....	2	277	44	358	148	829
	22	.....	.....	45	14	249	64	372
	29	.....	.....	.....	2	14	5	21
	Total	180	2,954	1,887	612	731	862	7,226
1929	May 10	7	.....	.....	.....	.....	.....	7
	17	76	9	.....	.....	.....	16	101
	24	61	195	1	3	.....	35	295
	31	2	400	99	41	.....	26	568
	June 7	.....	580	424	135	16	61	1,216
	14	.....	562	190	87	56	226	1,121
	21	.....	180	329	12	40	188	749
	28	.....	32	254	15	205	93	599
	July 5	.....	17	26	2	308	35	388
	12	.....	.....	10	.....	5	7	22
	Total	146	1,975	1,333	295	630	687	5,066

Source of data: Compiled from the New York Daily Fruit Reporter.

the different varieties are marketed. In 1929, for example, the heavy sales of Black Tartarians came at the same time as those of Bings and Royal Anns (see table 6). An analysis of the data for other years, however, indicates that 1928 was more typical than 1929 from the

standpoint of seasonal marketing. In most years the peaks of sales of the important varieties, with the exception of Bings and Royal Anns, come at different times. Thus the marketing season is spread over a longer period than would be the case if all of the varieties were shipped at the same time.

Trends of Sales by Varieties.—The increases in the New York Auction sales of four of the varieties from 1921–1923 to 1927–1929 are shown in table 7. It will be noted that each variety has

TABLE 7

SALES OF IMPORTANT VARIETIES OF CALIFORNIA CHERRIES ON THE NEW YORK AUCTION MARKET, AVERAGE 1921–1923 AND 1927–1929

Variety	Average 1921–1923	Average 1927–1929	Increase	
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*per cent*
Black Tartarian	1,261	2,187	926	73
Bing	583	1,338	755	130
Black Republican	223	566	343	154
Royal Ann	675	813	138	20

Source of data: Compiled from New York Daily Fruit Reporter.

experienced a substantial increase. The absolute increase has been greatest in Black Tartarians, followed by Bings, Black Republicans, and Royal Anns. The percentage increase, however, has been greatest in Black Republicans, followed by Bings, Black Tartarians, and Royal Anns.

Trend of Prices.—The average annual f.o.b. prices[11] of California cherries from 1921 to 1929 are shown in figure 8. It will be noted that there has been no pronounced upward or downward trend in prices. During the same period, however, there was a substantial increase in interstate shipments. There has evidently been a marked increase in the demand for California cherries. Although consumers are paying as much per pound for them, they are eating almost one-third more than they did eight years ago.

Whether the demand for cherries will continue to increase cannot be determined definitely from the data now available. However, there is as yet no evidence that the upward trend in demand has been checked. Even if there is a further substantial increase in demand, however, it should not be assumed that the future trend of prices will necessarily be upward. The relatively large acreage of cherries in

[11] A composite of the weighted average prices of Black Tartarians, Black Republicans, Bings, and Royal Anns.

this state which has not yet come into bearing indicates that there will be a further material increase in the trend of interstate shipments. It is likely that the increase in the trend of shipments will be sufficient

Annual Average F. O. B. Prices of California Cherries, 1921–1929

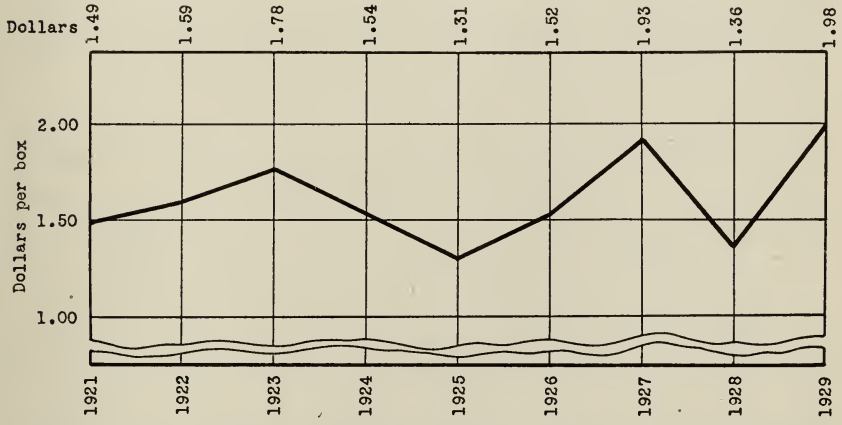


Fig. 8.—There has been no upward or downward trend in cherry prices during the past eight years. The fluctuations from year to year, however, have been relatively wide.

Data from table 9.

Seasonal Variation in New York Auction Prices of Important Varieties of California Cherries, Average 1925–1929

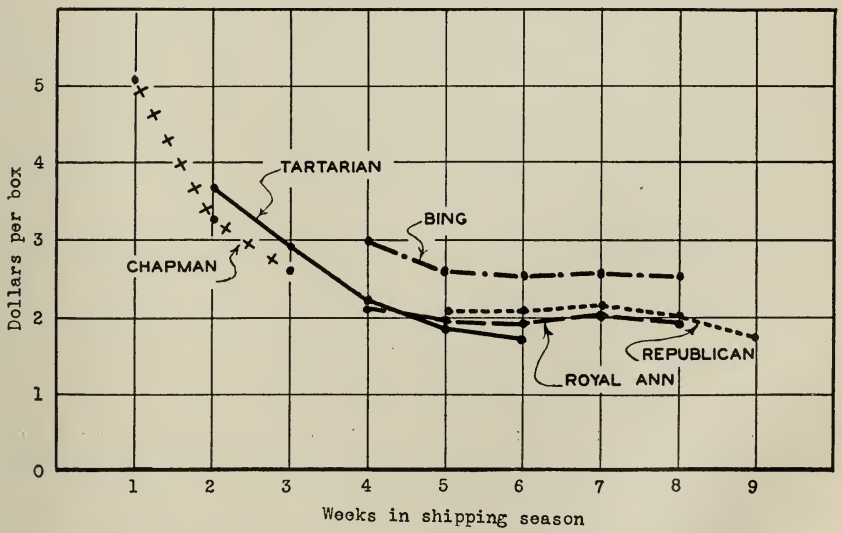


Fig. 9.—There is usually a decline in the prices of cherries from the beginning to the middle of the season.

Data compiled from New York Daily Fruit Reporter. Years 1927–1929 are given in table 8.

to offset any reasonable increase in demand which may be expected. It is entirely possible, of course, that the upward trend in shipments will be great enough to cause a downward trend in prices during the next few years. That, however, cannot be definitely determined at this time.

The recent increase in demand for cherries has not been the same for all varieties. While there has been no significant change in the

TABLE 8

WEEKLY AVERAGE PRICES OF IMPORTANT VARIETIES OF CALIFORNIA CHERRIES, NEW YORK AUCTION MARKET, 1927–1929
(Per box of 8 pounds net)

Year	Week ending	Early Chapman	Black Tartarian	Bing	Royal Ann	Black Republican
		dollars	*dollars*	*dollars*	*dollars*	*dollars*
1927	May 13	4.68	.....	.....	.....	.....
	20	3.58	4.28	.....	.....	.....
	27	2.94	3.37	.....	.....	.....
	June 3	.....	2.16	3.30	2.14	.....
	10	.....	2.27	3.10	2.04	2.37
	17	.....	2.20	3.37	2.25	2.50
	24	.....	.....	3.09	2.13	2.49
	July 1	.....	.....	3.11	2.01	2.54
	8	.....	.....	.....	.....	2.21
1928	May 4	4.07	.....	.....	.....	.....
	11	3.06	3.26	.....	.....	.....
	18	2.61	2.42	.....	.....	.....
	25	.....	1.52	2.31	1.63	.....
	June 1	.....	1.55	2.22	1.52	1.79
	8	.....	1.52	2.18	1.63	1.72
	15	.....	.....	2.45	1.80	1.98
	22	.....	.....	2.30	1.70	1.76
	29	.....	.....	.....	.....	1.29
1929	May 10	7.78	.....	.....	.....	.....
	17	3.49	3.48	.....	.....	.....
	24	2.98	3.03	.....	.....	.....
	31	.....	2.56	3.17	2.20	.....
	June 7	.....	2.10	2.83	1.92	2.40
	14	.....	1.99	2.89	2.21	2.24
	21	.....	.....	3.12	2.40	2.49
	28	.....	.....	2.77	1.99	1.92
	July 5	.....	.....	.....	.....	1.29

Source of data: Compiled from New York Daily Fruit Reporter.

trend of prices of Black Republicans, Bings, Black Tartarians, and Royal Anns during the past eight years, there has been considerable difference in the relative increases in sales. Between 1921–1923 and 1927–1929 the sales of Black Republicans at New York increased 154 per cent, Bings 130 per cent, Black Tartarians 73 per cent, and Royal Anns 20 per cent.

Seasonal Variation in Prices.—The average seasonal variation in the prices of five important varieties of cherries for the past five years is shown in figure 9. At the beginning of the season prices are usually very high because of the limited supply available. They begin to fall almost immediately, however, and usually continue downward until the middle of the season. The chief cause for this decline is the rapid increase in supplies. For the next three weeks there is no definite seasonal change in prices. Although shipments of California cherries decline, the decline is apparently offset by the increase in supplies of competing fruits. During the last week of our season, however, there is usually some decline in prices. In that week shipments of cherries from the other states producing sweet cherries increase rapidly, and in addition shipments of competing fruits are heavy.

Average Price Differentials between Varieties.—The average auction prices at New York of five important varieties of California cherries for the five years 1924–1928 are given in figure 10. The

Annual Prices of Important Varieties of California Cherries, New York Auction Market, Average 1925–1929

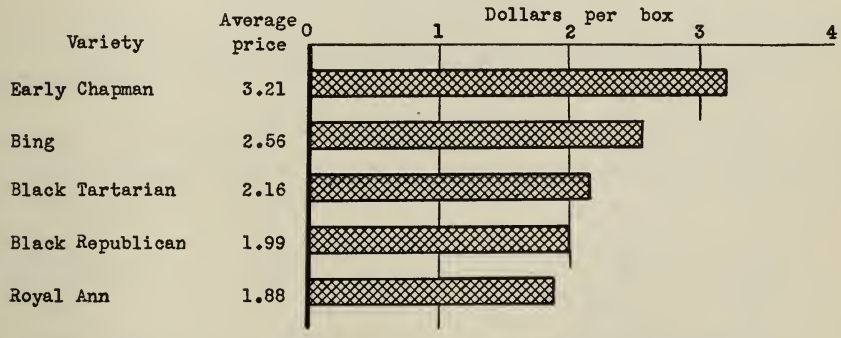


Fig. 10.—The differences in the lengths of the bars show the average price differentials between these five varieties of cherries since 1924.

Data from table 15.

Early Chapman has averaged the highest in price, followed by the Bing, Black Tartarian, Black Republican, and Royal Ann in the order named. The average price differentials between these five varieties are partly the result of differences in the time they are marketed and partly of differences in consumer preferences.

The relatively high average price for Early Chapmans, for example, appears to be largely because they are marketed early when there is only a small supply of cherries available. They are apparently

less desirable than Black Tartarians from the consumers' standpoint as evidenced by the fact that they usually sell for lower prices than Black Tartarians when both varieties are on the market at the same time (see fig. 9). Bings appear to be the most desirable of the five varieties from the standpoint of consumers. They come on the market during the peak of our cherry-shipping season and yet they have consistently brought higher prices than the other varieties on the market at the same time.

Factors Affecting Prices.—It will be noted in figure 8 that the prices of fresh cherries fluctuated considerably from year to year. These price fluctuations were the result of a combination of factors, the most important of which were changes in the interstate shipments from California and changes in the quality of the fruit.

RELATION BETWEEN AVERAGE F. O. B. PRICES AND ANNUAL INTERSTATE SHIPMENTS OF CALIFORNIA CHERRIES, 1921–1929

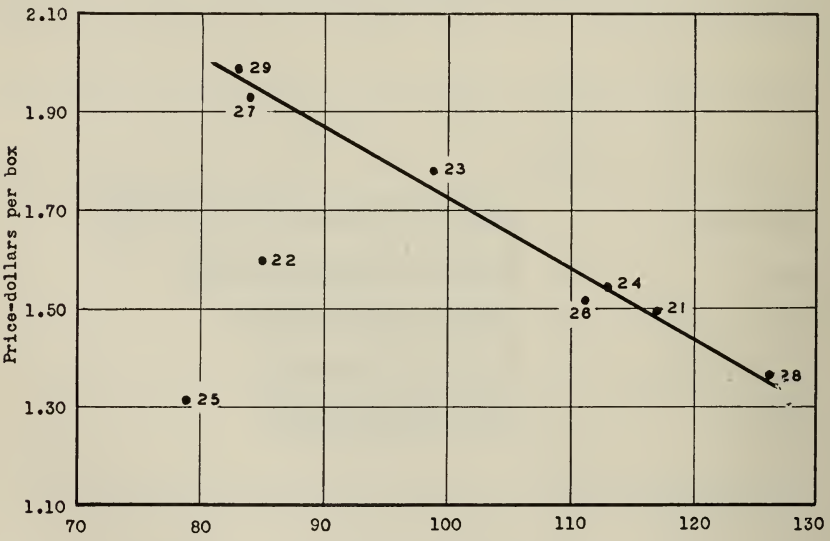


Fig. 11.—Small shipments are generally accompanied by high prices, large shipments by low prices.

Data from table 9.

In figure 11 the interstate shipments of California cherries, calculated in percentages of the trend of shipments (fig. 5), are measured on the horizontal scale and the annual average f.o.b. prices on the vertical scale. Each dot represents the interstate shipments and average price for the year designated. The diagonal line represents the average relationship that has existed between interstate shipments and

f.o.b. prices since 1921 (except for 1922 and 1925, which are omitted because of the abnormally low quality of the fruit due to unusual rains during the harvesting season). When shipments were small (measured as percentages of the trend) prices were high, when they

TABLE 9

California Interstate Shipments of Cherries, Measured as Percentages of the Trend and Average F. O. B. Prices, 1921–1929

Year	Interstate shipments	Price per box*
	1	2
	Per cent of trend	*dollars*
1921	117	1.49
1922	85	1.59
1923	99	1.78
1924	113	1.54
1925	79	1.31
1926	111	1.52
1927	84	1.93
1928	126	1.36
1929	83	1.98

* Box of 8 pounds net.

Sources of data: Col. 1. Computed from figure 5. Col. 2. Weighted average New York auction prices of Bings, Black Tartarians, Black Republicans, and Royal Anns (table 15) less commission, express, and refrigeration charges.

were large prices were low. It is clearly evident that differences in the volume of shipments largely explain why prices were low in 1928 and high in 1927 and 1929.

If interstate shipments were the only factor that affected the f.o.b. price, all of the dots in figure 11 would be located in the position occupied by the diagonal line. The fact that they are not, indicates that other factors also influence the changes in prices from year to year. One of the most important of these other factors is quality. In 1922 and particularly in 1925, the quality of the cherries was poor. Consequently, prices were much lower than they would ordinarily have been for the small volume of shipments.

An important cause of the poor quality of California cherries in 1925 was the excessive rainfall during the ripening and harvesting season. In that year the average rainfall during May at Vacaville, Stockton, and San Jose was 2.3 inches while in the other years, with the exception of 1922, the rainfall never exceeded 0.4 of an inch, and in 1922 it amounted to 0.6 of an inch. It is generally accepted that extended rainfall during the ripening and harvesting seasons results

in checking and other conditions that are favorable to the germination of organisms which cause decay.

In addition to variations from year to year in the supply and quality of cherries, it is probable that their prices are influenced by changes in the supplies or in the prices of competitive fruits such as strawberries, peaches, plums, and cantaloupes. On the average, however, the competition of other fruits has been of much less importance than the supply or the quality of the cherries themselves in explaining year to year changes in their prices.

CANNED CHERRIES

Practically the entire United States pack of sweet cherries is canned in the western states. Only a small quantity of sweet cherries is canned in the states east of the Rocky Mountains. In New York, for example, only 2.6 per cent of the total cherry pack during the past five years has been sweet cherries. Almost all of the canned pack

CANNED CHERRY PACK, WESTERN STATES, AVERAGE 1925–1928

State	1,000 cases	Per cent
California	300	37.0
Oregon	276	34.1
Washington	185	22.8
Idaho	29	3.5
Utah	21	2.6
Total	811	100.0

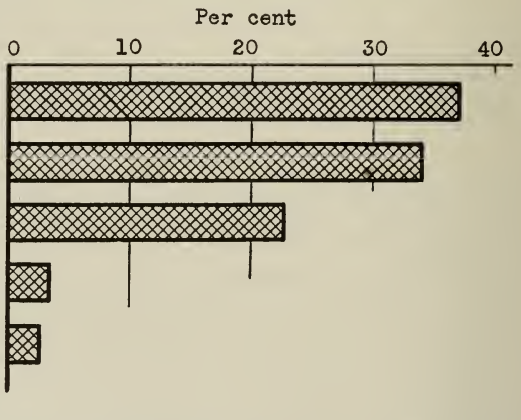


Fig. 12.—Over 90 per cent of the United States canned pack of sweet cherries is canned on the Pacific Coast.

Data from table 16.

of the western states, with the exception of Utah, consists of sweet cherries. During the two years of 1924 and 1925, an average of 97 per cent of the total canned pack in Oregon, 90 per cent in Washington, and 94 per cent in Idaho was sweet cherries, while in California all of the canned pack consists of sweet cherries. In Utah approximately 45 per cent of the pack, on the average, is sour cherries and 55 per cent sweet cherries.

Important Canning-Cherry-producing States.—The average packs of canned cherries in the five western cherry-producing states during the past four years are shown in figure 12. In California the pack has averaged around 300,000 cases a year. The average pack in Oregon has been almost as large as that in California, but in Washington it has been about 35 per cent smaller. The packs in both Idaho and Utah have been relatively small, averaging less than 30,000 cases.[12] Approximately 94 per cent of the total has been canned in the three Pacific Coast states.

Trend of Canned Cherry Pack.—The changes in the pack of cherries on the Pacific Coast from 1919 to 1928 are shown in figure 13.

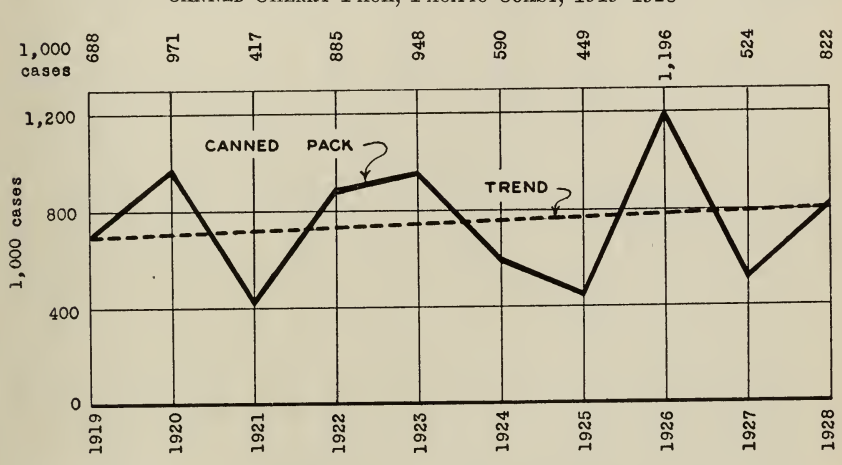


Fig. 13.—During the past ten years there has been an upward trend in the canned pack of cherries on the Pacific Coast.

Data from table 16.

During this period there was a gradual upward trend in the pack, rising from 693,000 cases in 1919 to 816,000 cases in 1928, an increase of 18 per cent. This increase was the result of a substantial expansion in both Oregon and Washington. In Oregon the trend rose from 104,000 cases in 1919 to 318,000 cases in 1928, an increase of 214,000 cases or 205 per cent. In Washington the increase amounted to 93,000 cases or 86 per cent of its 1919 pack. On the other hand, the trend in California declined from 521,000 cases in 1919 to 258,000 cases in 1928, a decrease of 51 per cent.

[12] The figure for Utah includes only the pack of sweet cherries.

The Royal Ann is the principal variety of cherry used for canning. Royal Anns are also used in the manufacture of maraschino cherries and for fresh shipment. During the next few years it is expected that there will be an upward trend in the production of Royal Ann cherries. Unofficial estimates indicate that there are about 2,500 acres of nonbearing Royal Ann trees in the three Pacific Coast states at the present time.

The changes in the canned cherry pack in California during the past twenty years are shown in figure 14. The smallest pack was in 1914, when only 115,155 cases were canned; the largest pack was in

CANNED CHERRY PACK, CALIFORNIA, 1909–1928

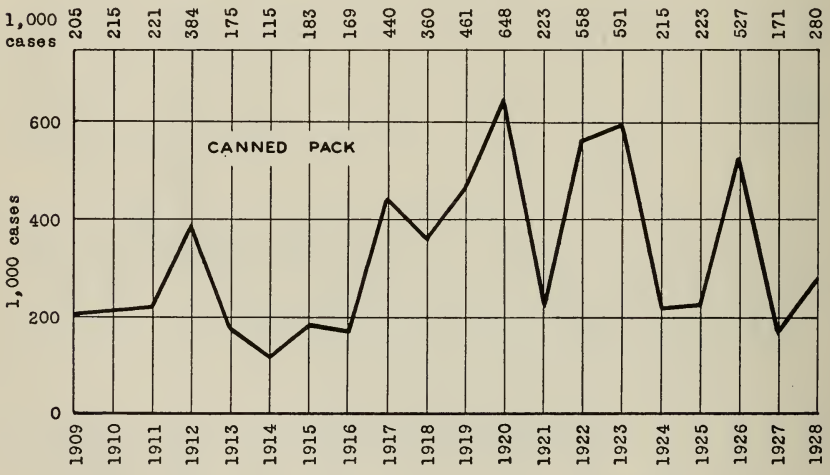


Fig. 14.—During recent years there has been a downward trend in the canned cherry pack in California.

Data from the Canners' League of California and the California Fruit News.

1920, when 647,977 cases were canned. From 1914 to 1920 there was a pronounced upward trend in the pack; during recent years there has been a decline.

Wide Variations in Pack of Canned Cherries in California.—In the past decade the pack in California has varied widely from year to year. In 1921, 1924, 1925, 1927, and 1928, the pack was less than 300,000 cases, while in 1920, 1922, 1923, and 1926, it was over 500,000 cases. The chief reasons for these violent fluctuations were the changes in the total production in Royal Ann cherries and the changes in the prices paid to growers.

The broken line in figure 15 represents the percentages of the total production of cherries in California that were canned each year from

1921 to 1928. Estimates of the production of Royal Ann cherries are not available. In most years, however, changes in the total production of cherries reflect fairly accurately the changes in the production of Royal Anns. The solid line represents the average prices paid by canners for No. 1 Royal Ann cherries. The close correspondence between the two curves indicates that growers tend to sell a larger proportion of their crops to canneries when the price of canning cherries is high than they do when it is low. This tendency is also shown by the fact that the sales of California fresh Royal Anns on the New York Auction Market have generally varied inversely with the canned pack in this state.

Relation Between the Price of California Canning Cherries and the Percentage of the Total California Cherry Crop Canned, 1921–1928

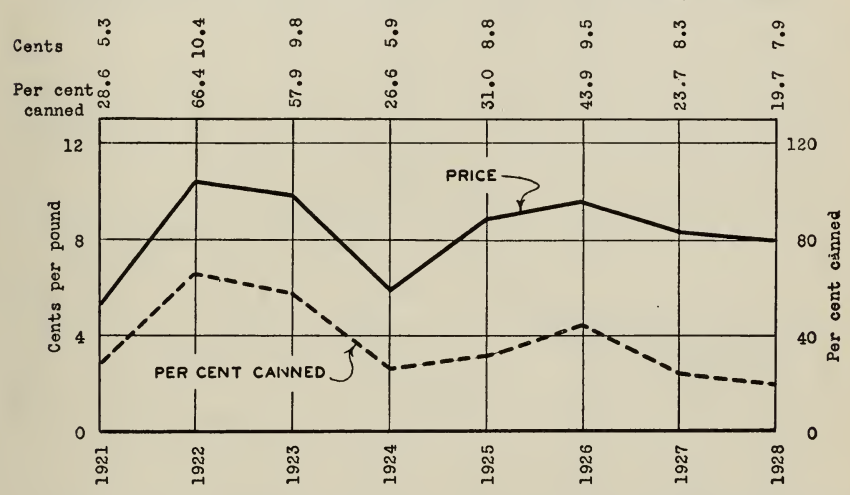


Fig. 15.—The fluctuations from year to year in the size of the canned cherry pack in California have been caused in part by changes in the prices paid for canning cherries.

Data from tables 1, 16, and 17.

Other factors, such as quality of the fruit and prices of Royal Anns for fresh shipment or for the manufacture of maraschino cherries, also have some influence in determining the amount canned. It appears, however, that in the past the size of the crop and the prices paid for canning cherries have exerted the dominant influence.

If a high price for canning cherries coincides with a large crop, such as was the case in 1926, the pack of canned cherries may be larger than can be sold at the prices asked at the beginning of the season. In 1926 the canners' opening price on No. 2½ choice Royal Ann cherries was $3.40 per dozen cans. It soon became evident that

the entire pack could not be sold at that price. By the first of January, 1927, price quotations had declined to $3.15 a dozen, and by the first of June to $2.90 a dozen. Because the price was too high at the beginning of the season and because canners had to sell on a declining price level, the fruit did not move readily into consumption. Consequently, a considerable part of the 1926 pack was carried over into the 1927 crop year. As a result, the price paid to growers for No. 1 Royal Ann cherries was only 8.5 cents a pound in 1927 as against 10 cents a pound in 1926, although the crop in 1927 was unusually short. These facts indicate that both growers and canners would benefit by a better adjustment of the canning price to the size of the total crop and to the proportion of it that is likely to be canned.

PRICES OF CANNING ROYAL ANN CHERRIES AND INDEX OF RETAIL PRICES OF COMMODITIES FARMERS BUY, 1910–1929

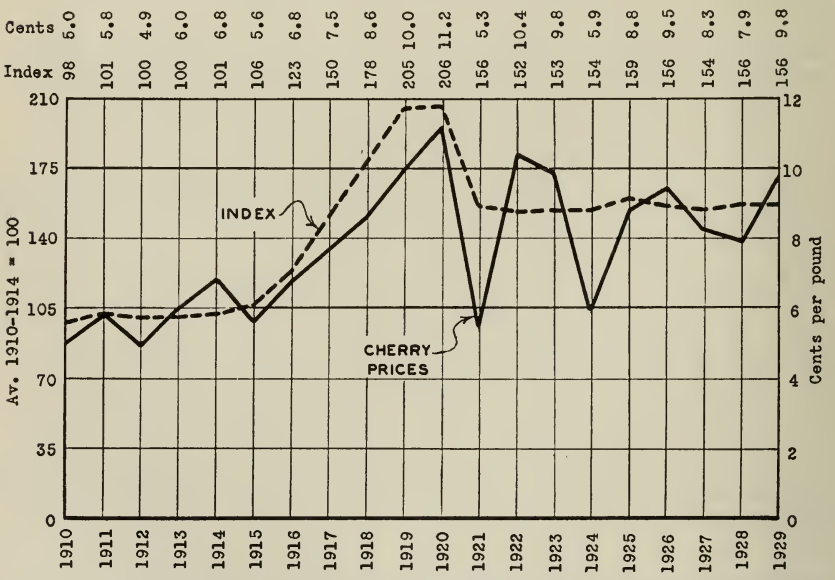


Fig. 16.—The higher prices of cherries during recent years as compared with the pre-war level have been largely offset by the increase in the index of prices of commodities farmers buy.

Data from table 17.

Prices Paid to Growers for Canning Cherries.—The average prices paid to California growers for Royal Ann cherries for canning from 1910 to 1929 are shown by the solid line in figure 16. From 1910 to 1920 there was an upward trend in prices. The increase during the latter part of the period was particularly large. That large increase, however, was more than offset by the rise in the prices of commodities

that farmers buy for use in living and production, which are represented by the broken line. It is recognized, of course, that the general index of prices of commodities that farmers throughout the United States buy, may not adequately represent the costs of producing cherries, but it is the best index available at the present time. During the past nine years the index of prices of commodities farmers buy has remained fairly stable. Prices of canning cherries, however, have fluctuated widely. In four of the nine years they were above the index while in the other five years they were below it.

Since 1920 there has been no definite upward or downward trend in either the prices paid to growers or in the canners' opening prices. The demand for canned cherries has just about kept pace with the increase in the pack.

As a result of the prospective future increase in the bearing capacity of the trees now planted, there will apparently be sufficient Royal Ann cherries to provide for any reasonable increase in demand that may develop during the next few years. Consequently, it is not expected that the future level of prices will be above that of recent years. There may, of course, be a downward trend in prices if the pack increases much faster than it has since 1919. Past experience

TABLE 10

EXPORTS OF CANNED CHERRIES FROM PACIFIC COAST BY CUSTOMS DISTRICTS, 1922–1927

Calendar year	San Francisco	Los Angeles	Oregon	Washington	Total
	cases	*cases*	*cases*	*cases*	*cases*
1922	28,035	254	3,747	2,727	34,763
1923	22,087	22	233	949	23,291
1924	24,659	105	1,396	3,404	29,564
1925	24,737	98	125	288	25,248
1926	28,318	69	960	1,107	30,454
1927	27,753	124	164	575	28,616

Sources of data: U. S. Dept. Commerce. Foreign Commerce and Navigation of the United States, annual numbers. Pounds converted to cases on the basis of 45 pounds to the case.

indicates that consumers will buy a relatively small quantity of canned cherries at high prices, but when the cherry pack is large it is difficult to sell all of it except at lower prices, especially when there are large quantities of low-priced competing fruits on the market.

Exports of Canned Cherries.—Exports of canned sweet and sour cherries are not reported separately. Most of the canned sweet cherries, however, are exported directly from the Pacific Coast, and

practically all of the exports of canned cherries from the Pacific Coast consist of sweet cherries.

Table 10 gives the number of cases of canned cherries exported from the four custom districts on the Pacific Coast during the calendar years 1922–1927.[13] The average annual exports from the Pacific Coast during those six years amounted to 28,656 cases. The average pack of canned cherries in the three Pacific Coast states during the same period amounted to 765,386 cases. The proportion of the pack exported averaged 3.7 per cent.

It will be noted in table 10 that about 90 per cent of the total exports from the Pacific Coast go from San Francisco. The exports from San Francisco for the calendar years 1922–1928 are shown graphically in figure 17. Since 1923 there has been a gradual upward

EXPORTS OF CANNED CHERRIES FROM SAN FRANCISCO CUSTOMS DISTRICT, 1922–1928

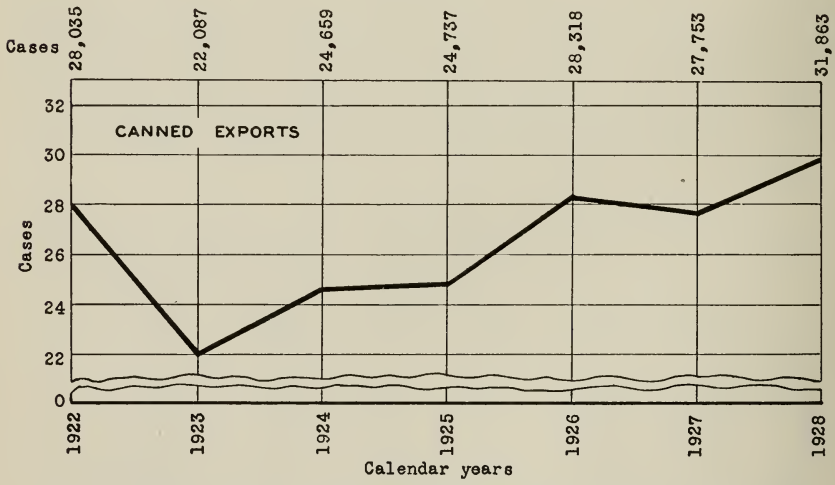


Fig. 17.—There has been a gradual upward trend in the exports of canned cherries from San Francisco since 1923.

Data for 1922–1927 from table 10, for 1928 from Wesley O. Ash, District Manager, Bureau of Foreign and Domestic Commerce at San Francisco.

trend in exports. The average exports during the past three years have amounted to 28,036 cases as compared with 22,087 cases in 1923, and an average of 24,927 cases during the three years 1922–1924. Although exports have increased somewhat faster than the canned pack, they still constitute a very small percentage of it.

[13] An average of 73 per cent of the total canned cherry exports from the United States were exported directly from the Pacific Coast.

The principal foreign markets for canned cherries exported from San Francisco are given in table 11. It will be noted that the countries in the Orient are our most important markets. During the past four years these countries have taken 67 per cent of the canned cherries exported from San Francisco, while China alone has taken 23 per cent. The United Kingdom and Canada are less important markets for canned sweet cherries than either China, Java and Madura, or the Philippine Islands.

TABLE 11

Exports of Canned Cherries from San Francisco Customs District by Countries of Destination, 1925–1928

Country	1925	1926	1927	1928	Average 1925–1928
	cases	*cases*	*cases*	*cases*	*cases*
China	5,312	5,668	6,348	8,115	6,361
Java and Madura	2,127	3,216	2,761	3,142	2,812
Philippine Islands	2,806	1,624	2,425	3,317	2,543
British India	1,609	1,074	2,497	1,887	1,767
Other Netherland East Indies	967	3,239	1,415	1,414	1,759
British Malaya	549	535	728	1,146	739
Hongkong	725	415	996	623	690
French Indo-China	351	1,014	706	381	613
Japan (including Chosen)	346	493	520	738	524
Ceylon	239	202	481	637	390
Siam	34	965	228	166	348
Kwantung	64	290	206	657	304
Canada	2,227	2,007	1,847	3,047	2,282
United Kingdom	2,744	2,346	1,735	2,262	2,271
Venezuela	665	871	917	462	729
Colombia	277	297	613	509	424
Peru	295	320	366	291	318
Others	3,400	3,742	2,964	3,021	3,282
Total	24,737	28,318	27,753	31,815	28,156

Source of data: From Wesley O. Ash, District Manager, Bureau of Foreign and Domestic Commerce, U. S. Dept. Commerce at San Francisco.

MARASCHINO CHERRIES

The manufacture of maraschino cherries provides an important outlet for Royal Ann cherries produced in this country. The Royal Ann is the only variety that is treated with sulfur and brine, which is an intermediate stage in the preparation of maraschino cherries. Unfortunately data regarding the quantity of Royal Anns so used are not available for a period of years. Consequently, it is not possible to determine accurately whether the maraschino market is absorbing a larger or smaller quantity of our Royal Anns now than formerly.

According to the United States Tariff Commission, more than 5,000,000 pounds of Royal Ann cherries have been sulfured and brined annually in the three Pacific Coast states.[14]

Domestic Royal Ann cherries used in the manufacture of maraschino cherries meet with keen competition from foreign cherries in the markets of this country. Large quantities of cherries sulfured or in brine are imported. According to the United States Tariff Commission, the cherries sulfured or in brine which are imported "are of the same variety as the domestic Royal Ann cherries and are used for the same general purposes, i.e., in the manufacture of maraschino and glacé cherries. . . . . There is no substantial difference between the imported and domestic cherries in firmness of flesh, taste, or color."

The available data on the annual imports of cherries into the United States are given in table 12. The import statistics are not segregated in such a way that it is possible to determine exactly the

TABLE 12

IMPORTS OF CHERRIES INTO THE UNITED STATES BY COUNTRIES OF ORIGIN, 1923–1928

Country of origin	Calendar year					
	1923*	1924	1925	1926	1927	1928
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
Italy		8,947	14,458	21,414	14,533	
France		834	458	606	2,027	
Switzerland		91	105	90	71	
Canada		141	62	495	133	
Others		170	198	169	494	
Total	22,622	10,183	15,281	22,774	17,258	13,951

* This figure does not include re-exports as do the figures for subsequent years. Re-exports of cherries are negligible and may be disregarded.

Sources of data: U. S. Dept. Commerce, Bur. Foreign and Domestic Commerce, Foreign Commerce and Navigation of the United States, annual numbers; except for 1928, which is from Monthly Summary of Foreign and Domestic Commerce of the United States, monthly issues.

total imports of cherries sulfured or in brine. From October, 1922, to January, 1927, imports of cherries sulfured or in brine that had been stemmed and pitted were included in the classification "maraschino and other prepared or preserved cherries (dutiable at 40 per cent ad valorem)," while imports of cherries sulfured or in brine that were unstemmed and unpitted were included in the classification "cherries in their natural state, sulfured, or in brine (dutiable at 2 cents per

[14] United States Tariff Commission Report on cherries, sulfured or in brine, p. 5, 7. 1928.

pound).''[15] Since February, 1927, all imports of cherries sulfured or in brine have been included in the latter classification. For the past two years, therefore, imports of maraschino and similarly prepared cherries have been separately reported. In 1928 they amounted to 618,000 pounds or 4.4 per cent of the total imports of 13,951,000 pounds. They are, therefore, relatively unimportant as compared with the imports of the other types of cherries.

Although imports of cherries sulfured or in brine and fresh cherries are still reported together, it may safely be assumed that the bulk of them are sulfured or brined cherries. The United States Tariff Commission found from an analysis of consular invoices that only 2.8 per cent of the imports in 1926 consisted of fresh cherries. It would appear, therefore, that since the imports of both maraschino and similarly prepared cherries and fresh cherries are relatively small, the total imports given in table 12 may be used to represent the changes in the imports of cherries sulfured or in brine.

It is apparent from table 12 that there has been no pronounced upward or downward trend in total imports during the six years 1923–1928. The fluctuations from year to year, however, have been considerable. The average annual imports for the six-year period amounted to 17,000,000 pounds. This amount constitutes about 75 per cent of the total quantity of cherries used in the manufacture of maraschino cherries in the United States.

The origin of the United States imports of cherries during the four years 1924–1927 is also shown in table 12. It is readily seen that the bulk of our imports come from Italy. Most of the Italian exports to the United States consist of cherries sulfured or in brine. Only a small quantity of them consists of maraschino or similarly prepared cherries. On the other hand, a considerable proportion of the French exports of cherries to the United States are maraschinos and practically all of our imports from Switzerland are of that type. Our imports from Canada consist almost entirely of fresh cherries of varieties other than Royal Anns.

ITALIAN EXPORTS OF CHERRIES

Estimates of cherry production in Italy are not available. The statistics of total Italian exports given in table 13, however, provide an index of Italian production of cherries suitable for foreign markets. It will be noted that the average 1910–1913 exports amounted to

[15] In January, 1928, the duty on cherries coming under the latter classification was increased to 3 cents per pound.

16,138,000 pounds as against an average of 38,590,000 pounds during the four years 1924–1927, an increase of 22,452,000 pounds or 139 per cent.

Table 13 also gives the principal markets for Italian cherry exports during the four years of 1924–1927. The United States is the leading market for Italian cherries, taking on the average 45 per cent of the total exports. Germany is the next most important market, followed by Austria and Great Britain.

TABLE 13

Exports of Cherries from Italy by Countries of Destination, Average 1909–1913 and 1924–1927; Annual 1924–1927

Country of destination	Average 1909–1913	Average 1924–1927	1924	1925	1926	1927
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
United States		17,299	8,801	20,621	25,785	13,988
Germany		8,215	6,037	6,138	8,903	11,780
Austria		4,702	6,242	3,815	3,898	4,853
Great Britain		3,316	3,017	2,643	4,561	3,045
France		2,010	1,069	2,853	983	3,135
Switzerland		1,250	1,506	1,233	1,292	968
Others		1,798	1,063	1,367	3,245	1,519
Total	16,138	38,590	27,735	38,670	48,667	39,288

Source of data: From Wesley O. Ash, District Manager, Bureau of Foreign and Domestic Commerce, U. S. Dept. Commerce, San Francisco office.

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APPENDIX OF TABLES

TABLE 14

New York Auction Sales of California Cherries by Varieties, 1921–1929

Year	Black Tartarian	Bing	Royal Ann	Black Republican	Early Chapman	Others	Total
	1,000 lbs.	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*	*1,000 lbs.*
1921	1,150	570	1,190	230	*	1,260	4,400
1922	1,127	526	349	149	*	849	3,000
1923	1,506	653	486	289	*	1,214	4,148
1924	1,565	979	1,096	434	103	935	5,112
1925	1,139	639	532	338	173	1,012	3,833
1926	1,753	1,761	251	800	255	1,144	5,964
1927	1,631	795	1,531	336	93	772	5,158
1928	2,954	1,887	612	731	180	862	7,226
1929	1,975	1,333	296	631	146	681	5,061

* Early Chapmans for 1921–1923 included in others.

Source of data: Compiled from New York Daily Fruit Reporter. Boxes converted to pounds on the basis of 8 pounds net, and lugs to pounds according to size designated.

TABLE 15

Annual Average Prices of Important Varieties of California Cherries, New York Auction Market, 1921–1929

(Per box of 8 pounds net)

Year	Early Chapman	Bing	Black Tartarian	Republican	Royal Ann
	dollars	*dollars*	*dollars*	*dollars*	*dollars*
1921	.....	2.54	2.27	1.54	1.84
1922	.....	2.57	2.15	2.06	2.02
1923	.....	2.92	2.30	2.24	2.30
1924	3.84	2.73	2.16	1.86	1.96
1925	3.10	2.14	1.95	1.71	1.62
1926	2.29	2.29	2.02	2.03	2.04
1927	3.94	3.18	2.53	2.37	2.07
1928	3.30	2.25	1.80	1.84	1.64
1929	3.56	2.91	2.47	2.00	2 12

Source of data: Compiled from New York Daily Fruit Reporter.

TABLE 16

CANNED CHERRY PACK, WESTERN STATES, 1919–1928

Year	Pacific Coast states				Idaho	Utah
	California	Oregon	Washington	Total		
	cases	*cases*	*cases*	*cases*	*cases*	*cases*
1919	460,614	120,181	107,177	687,972	23,694	.....
1920	647,977	147,728	175,735	971,440	30,398	.....
1921	222,772	142,429	51,670	416,871	17,684	.....
1922	557,591	173,463	154,320	885,374	29,813	.....
1923	590,685	168,889	188,225	947,799	42,341	.....
1924	215,114	254,095	121,028	590,237	5,509	.....
1925	222,816	118,041	108,078	448,935	31,445	32,372
1926	526,520	389,335	280,163	1,196,018	39,492	15,309
1927	170,909	251,735	101,309	523,953	6,100	22,570
1928	280,126	346,921	249,987	877,034	37,133	14,136

Sources of data: California from Canners League of California. Idaho, Oregon, and Washington, from Northwest Canners Association. Utah from Utah Canners Association, and includes only the pack of sweet cherries.

TABLE 17

AVERAGE PRICES PER POUND PAID TO GROWERS FOR CANNING ROYAL ANN CHERRIES AND INDEX OF RETAIL PRICES OF COMMODITIES FARMERS BUY, 1910–1929

Year	Prices paid to growers	Index of prices of commodities farmers buy
	1	2
	cents	1910–1914=100
1910	5.0	98
1911	5.8	101
1912	4.9	100
1913	6.0	100
1914	6.8	101
1915	5.6	106
1916	6.8	123
1917	7.5	150
1918	8.6	178
1919	10.0	205
1920	11.2	206
1921	5.3	156
1922	10.4	152
1923	9.8	153
1924	5.9	154
1925	8.8	159
1926	9.5	156
1927	8.3	154
1928	7.9	156
1929	9.8	156

Sources of data: Col. 1. Compiled from prices paid by various canneries. Prices given in this series are representative of the average prices for the state. In general, prices in the coast district were slightly higher and prices in the other districts of the state were somewhat lower than those given in this series. Col. 2. U. S. Dept. Agr., Bur. Agr. Econ., Index of prices paid by farmers for commodities used in living and production.

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258. Thinning Deciduous Fruits.
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263. Tomato Production in California.
265. Plant Disease and Pest Control.
266. Analyzing the Citrus Orchard by Means of Simple Tree Records.
269. An Orchard Brush Burner.
270. A Farm Septic Tank.
276. Home Canning.
277. Head, Cane, and Cordon Pruning of Vines.
278. Olive Pickling in Mediterranean Countries.
279 The Preparation and Refining of Olive Oil in Southern Europe.
282. Prevention of Insect Attack on Stored Grain.
284. The Almond in California.
287. Potato Production in California.
288. Phylloxera Resistant Vineyards.
289. Oak Fungus in Orchard Trees.
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302. The Sugar Beet in California.
304. Drainage on the Farm.
305. Liming the Soil.
307. American Foulbrood and Its Control.
308. Cantaloupe Production in California.
309. Fruit Tree and Orchard Judging.
310. The Operation of the Bacteriological Laboratory for Dairy Plants.
311. The Improvement of Quality in Figs.
312. Principles Governing the Choice, Operation and Care of Small Irrigation Pumping Plants.
313. Fruit Juices and Fruit Juice Beverages.
314. Termites and Termite Damage.
315. The Mediterranean and Other Fruit Flies.

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